POC-154

Point of care Terminal
with 15” TFT LCD

User Manual

Copyright

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FCC Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with this user's manual, it may cause harmful interference to radio communications.

Note that even when this equipment is installed and used in accordance with this user's manual, there is still no guarantee that interference will not occur. If this equipment is believed to be causing harmful interference to radio or television reception, this can be determined by turning the equipment on and off. If interference is occurring, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to a power outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Warning *Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.*

Caution *Danger of explosion if battery is incorrectly replaced.*

Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Technical Support and Assistance

1. Visit the Advantech web site at **www.advantech.com/support** where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

Packing List

Before installing your Point of Care Terminal, ensure that the following materials have been received:

- POC-154 series Point of Care Terminal
- User's manual
- Accessories for POC-154
  - Y-shaped adapter for PS/2 mouse and keyboard
  - Power cord (1.8 m) - USA type (other types are available on request)
  - Floppy disk with CD-ROM drive driver
  - "Drivers and Utilities" CD-ROM disc
  - Mounting kits and packet of screws
  - Heat sink (optional) (refer to Notes 1 and 2 below)

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1 *If the unit you have bought is basic (i.e. without a CPU, HDD, or SDRAM), you will find this optional item in the accessory box.*

Note 2 *If you install an Intel® processor yourself, you must install a heat sink above the CPU. This will avoid heat damage to the CPU.*

Additional Information and Assistance

1. Visit the Advantech websites at **www.advantech.com** or **www.advantech.com.tw** where you can find the latest information about the product.

2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages
- This equipment is a source of electromagnetic waves. Before use please, make sure that there are not EMI sensitive devices in its surrounding which may malfunction therefore.

Warning

1. Input voltage rated 100-240 V_{AC}, 50-60 Hz, 4 A (AC Mode)

Input voltage rated 24 V_{DC}, 10.5 A (DC Mode)

2. Use a 3 V @ 195 mA lithium battery (Model No. BR2032)

3. Packing: please carry the unit with both hands, handle with care

4. Our European representative:
Advantech Europe GmbH
Kolberger Straße 7
D-40599 Düsseldorf, Germany
Tel: 49-211-97477350
Fax: 49-211-97477300

5. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User's Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS MAY DAMAGE THE EQUIPMENT.

16. If your computer is losing dramatic time or the BIOS configuration reset to default, the battery has no power.

Caution *1. Do not replace battery yourself. Please contact a qualified technician or your retail.*

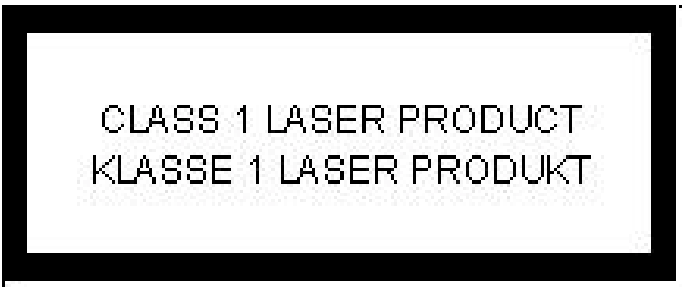
2 .The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacturer's instructions

16. IMPROPER INSTALLATION OF VESA MOUNTING CAN RESULT IN SERIOUS PERSONAL INJURY! VESA mount installation should be operated by professional technician, please contact the service technician or your retail if you need this service.
17. THE COMPUTER IS PROVIDED WITH CD DRIVES COMPLY WITH APPROPRIATE SAFETY STANDARDS INCLUDING IEC 60825.

18.

ADVARSEL!
Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage tilleverandøren.

19.



20. CLASSIFICATION:
    - Class I Equipment
    - No applied part
    - IPXO
    - Continuous Operation
    - Not AP or APG category
21. Disconnect device: Appliance inlet.
22. Follow the national requirements if disposing unit.
23. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator.
24. Contact information:
    No.1, Alley 20, Lane 26, Reuiguang Road Neihu District, Taipei, Taiwan 114, R.O.C.
    TEL: +886 2-2792-7818
25.

    Medical Equipment
    With Respect to Electric Shock, Fire, and Mechanical Hazards Only, In Accordance with UL 60601-1, CAN/CSA C22.2 No. 601.1, and IEC 60601-1
26. This equipment should not be used for life support systems.
27. The following devices are replaceable:
    - HDD
    - CPU
    - DVD-ROM
    - Floppy
    - RAM Module
28. This equipment shall be interconnected only to IEC 60601-1 approved equipment.
29. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB(A).

DISCLAIMER *This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein*

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CHAPTER 1

General Information

This chapter provides general information on POC-154.

Sections include:

- Introduction
- Specifications
- Cleaning/Disinfecting
- Dimensions

Chapter 1 General Information

1.1 Introduction

POC-154 is a multimedia Intel Pentium 4 Mobile processor-based computer that is designed to serve as a Point of Care terminal (POC.) It is a PC-based system with 15" color TFT LCD display, on-board PCI Ethernet controller, multi-COM port interfaces and a 16-bit stereo audio controller. With a built-in CD-ROM drive, floppy drive and PCMCIA expansion sockets, the POC-154 is as compact and user-friendly as a notebook computer. For system integrators, this simple, complete, compact and highly integrated multimedia system lets you easily build a Point of Care Terminal into your applications. Common industrial applications include factory automation systems, precision machinery, and production process control. It is also suitable for many non-industrial applications, including interactive kiosk systems, entertainment management, and car park automation. The POC-154 is a reliable, cost-effective solution to your application's processing requirements.

1.2 Specifications

1.2.1 General

- **Dimensions (W x H x D):** 414 x 339 x 115 mm (16.30” x 13.34” x 4.52”)
- **Weight:** 6.5 kg (14.4 lb)

1.2.2 Power Supply:

AC model:

180 W (Manufacturer: FPS, Model no.: FPS180-50MP): used within POC-154XX-AC-XX

Input voltage: 100 ~ 240 V_{AC} , 4/2 A max. @ 50 ~ 60 Hz (power cord type no.: DB15 connector)

Output voltages: + 5V @ 12 A, +12 V @ 12 A, +3.3 V @ 16.8 A, +5 Vsb @ 2.0 A, -12 V @ 0.8 A

DC model:

- **Internal ATX power- (Manufacturer: ALPHA PLUS Model no.: MDP-810H):** used within POC-154XX-DC-XX (power connector manufacturer: Positronic inc., model no.: PLA03M0050)
- **Input voltage:** +10 ~ +30 V_{DC}, 18 A max
- **Output voltage:** +5 V@ 10 A, +12 V@ 4 A, -12V@1A, +3.3 V@ 8 A, +5 Vsb@ 0.75 A
- **Cooling Fan Dimensions (L x W x H):** CPU fan: 60 x 60 x 10 mm (2.4" x 2.4" x 0.4")
- **Disk Drive Housing:** Space for one 2.5" HDD, one 12.7 mm Compact CD-ROM drive, and one compact disk 3.5" FDD
- **Front Panel:** IPX0/NEMA compliant
- **Whole System:** IPX0 compliant

1.2.3 Standard PC functions

- **CPU:** Intel Pentium 4 Mobile and Celeron up to 2.2 GHz
- **BIOS:** Award 256 KB Flash BIOS, supports Plug & Play, APM
- **Chipset:** Intel 845GV
- **2nd level cache:** On-die 512 KB
- **RAM:** Two 184-pin DIMM socket accepts up to 2 GB DDR200/266 DRAM
- **PCI Bus Master IDE Interface:** Supports two connectors. Each connector has one channel and supports two IDE devices. Each channel supports PIO modes 0 ~ 4, DMA mode 0 ~ 2, and Ultra DMA 100 simultaneously. The secondary connector is designated for the CD-ROM drive. BIOS supports IDE CD-ROM boot-up
- **Floppy Disk Drive:** Supports up to two FDDs (720 KB / 1.44 MB). One built-in FDD included inside FDD housing
- **Parallel Port:** One parallel port, supports SPP/EPP/ECP parallel mode. BIOS configurable to LPT1, LPT2, LPT3 or disabled
- **Serial Ports:** Four RS-232 ports with optical isolation. All ports are compatible with 16C550 UARTs.
- **Universal Serial Bus (USB) port:** Supports up to four USB ports (Two internal, two external)
- **PCI/ISA Bus Expansion Slot:** Accepts one PCI bus card

- **Watchdog Timer:** 62-level, interval 1 ~ 62 seconds. Automatically generates system reset or IRQ11 if the system stops due to a program error or EMI.
- **CMOS Battery (BIOS):** 3.0 V @ 195 mA lithium battery

1.2.4 Flat Panel Interface

- **Chipset:** Intel 845GV
- **Display Memory:** 64 MB shared memory
- **Display Type:** Simultaneously supports CRT and flat panel displays (EL, LCD and gas plasma)
- **Display Resolution:** Supports non-interlaced CRT and TFT LCD displays up to 1280 x 1024 @ 16 M colors

1.2.5 Audio Function

- **Chipset:** Realtek ALC202
- **Audio Controller:** 16-bit codec, Full-Duplex stereo single-chip PCI audio solution
- **Speaker:** Full Alarm Volume > 70 dB(A) 1 meter
- **Stereo Sound:** 100% DOS GAME compatible (Sound Blaster or Sound Blaster Pro)
- **Audio interface:** Microphone-in, Line-in, Line-out and Game ports (MPU-401)

1.2.6 PCI Bus Ethernet Interface

- **Chipset:** Realtek RTL 8100BL PCI local bus Ethernet controller
- **Ethernet Interface:** Full compliance with IEEE 802.3u 100Base-T and 10Base-T specifications. Includes software drivers and boot ROM
- 100/10Base-T Auto-Sensing Capability

1.2.7 PCMCIA Interface

- **Chipset:** RICOH 5C478II
- **Cardbus Controller:** A PC card controller offers a single chip solution as a bridge between the PCI bus and the Cardbus

- **PCI Bus Interface:** Complies with PCI Local Bus Specification 2.2, and supports the 32-bit Cardbus (Card-32) and the 16-bit PC card (Card-16) without external buffers.
- **Hot Insertion and Removal**

1.2.8 Touchscreen (optional)

- **Type:** Analog Resistive
- **Resolution:** Continuous
- **Light Transmission:** 75%
- **Controller:** RS-232 interface (uses COM4)
- **Power Consumption:** +5 V @ 200 mA
- **Software Driver:** Supports Windows 2000, Windows XP
- **Durability:** 30 million touches in a lifetime

Note *The Point of Care Terminal with the optionally installed touchscreen will share COM4. Once the touchscreen is installed, COM4 cannot be used for other purposes.*

1.2.9 Optional Modules

- **CPU:** Intel Pentium 4 Mobile and Celeron up to 2.2 GHz
- **Memory:** 256/512 MB/ 1GB DDR266 DRAM
- **HDD:** 2.5" HDD
- **Touchscreen:** Analog resistive
- **CD-ROM Drive:** Compact 24X CD-ROM or above
- **COMBO Drive:** Compact 8X DVD, 24X CD-ROM, 24X CD-R, 10X CD-RW
- **PCMCIA Interface:** Complies with 1995 PCMCIA card standard. Supports two PCMCIA card/CardBus slots. Two sockets support both a 16-bit PCMCIA card and a 32-bit CardBus simultaneously. Hot insertion and removal.

1.2.10 Environmental Specifications

- **Temperature:** 0 ~ 40° C (32 ~ 104° F)
- **Relative Humidity:** 10 to 40° C / 20% RH to 90% RH operating -20 to 50° C/ 10% RH to 95% RH Storage (Non-condensing)
- **Shock:** 50 G, half sine, 11 ms duration
- **Vibration:** 0.047 double amplitude displacement (5~32Hz) 2G Peak (32 -500 Hz)
- **Power MTBF:** 100,000 hrs
- **Altitudes:** Operational : 6,000 feet ; shipping : 40,000 feet
- **Certifications:** EMC: CE, FCC, VCCI, BSMI approved
- **Safety**: UL60601-1 and EN60601-1 approved.
- This device bears the CE label in accordance with the provisions of the EMC Directive 89/336/EMC and the Low Voltage Directive 73/23/EEC.

1.2.11 LCD Specifications

- **Display Type:** 15" TFT LCD.
- **Resolution:** 1024 x 768
- **Colors:** 262,144 (6 bits/color)
- **Dot Size (mm):** 0.264 x 0.264
- **Viewing Angle:** 120°
- **Luminance:** 350 cd/m2
- **Contrast Ratio:** 400 : 1
- **LCD MTBF:** 50,000 hours
- **Backlight Lifetime:** 50,000 hours @ Standard current 6.5 mA

1.3 Cleaning/Disinfecting

During normal use of the POC-154 may become soiled and should, therefore, be cleaned regularly. Agents: Green tinctured soap and enzymatic detergents. Steps:

1. Wipe the POC-154 with a clean cloth that has been moistened in the cleaning solution.

2. Prepare agent per manufacturer's instructions or hospital protocol.

3. Wipe thoroughly with a clean cloth

Cautions *Do not immerse or rinse the POC-154 and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation.*

Do not spray cleaning agent on the chassis.

Do not use disinfectants that contain phenol. Do not autoclave or clean the POC-154 or its peripherals with strong aromatic, chlorinated, ketone, ether, or esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

1.4 Dimensions

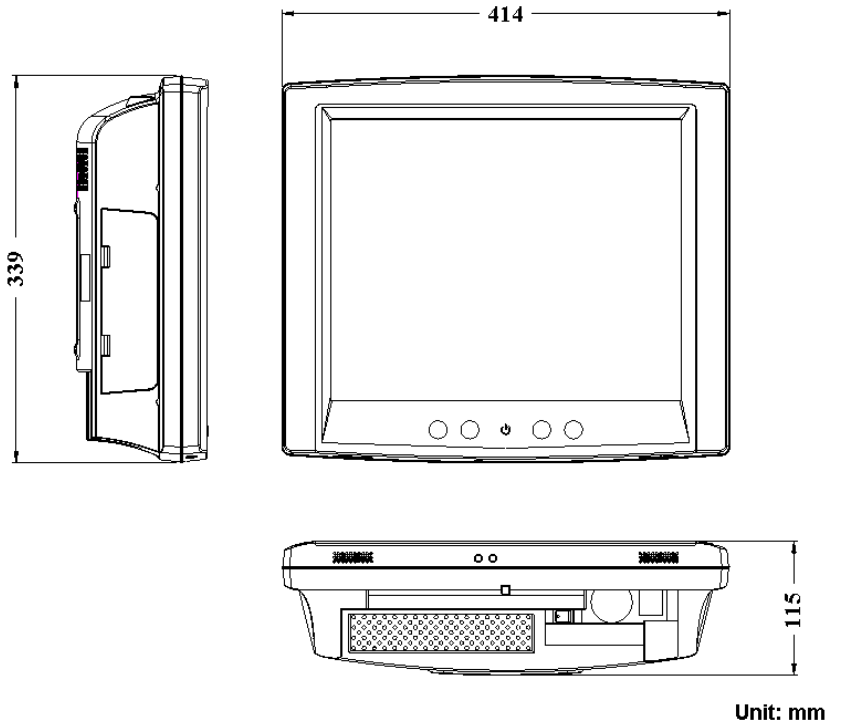


Figure 1.1: Dimensions of POC-154

CHAPTER 2

System Setup

This chapter describes how to setup the system.

Sections include:

- A Quick Tour of POC-154
- Installation Procedures
- Running the BIOS Setup Program
- Installing System Software
- Installing the Drivers

Chapter 2 System Setup

2.1 A Quick Tour of POC-154

Before you start to set up POC-154, take a moment to become familiar with the locations and purposes of the controls, drives, connections and ports, which are illustrated in the figures below.

When you place the POC-154 upright on the desktop, its front panel appears as shown in Figure 2.1.

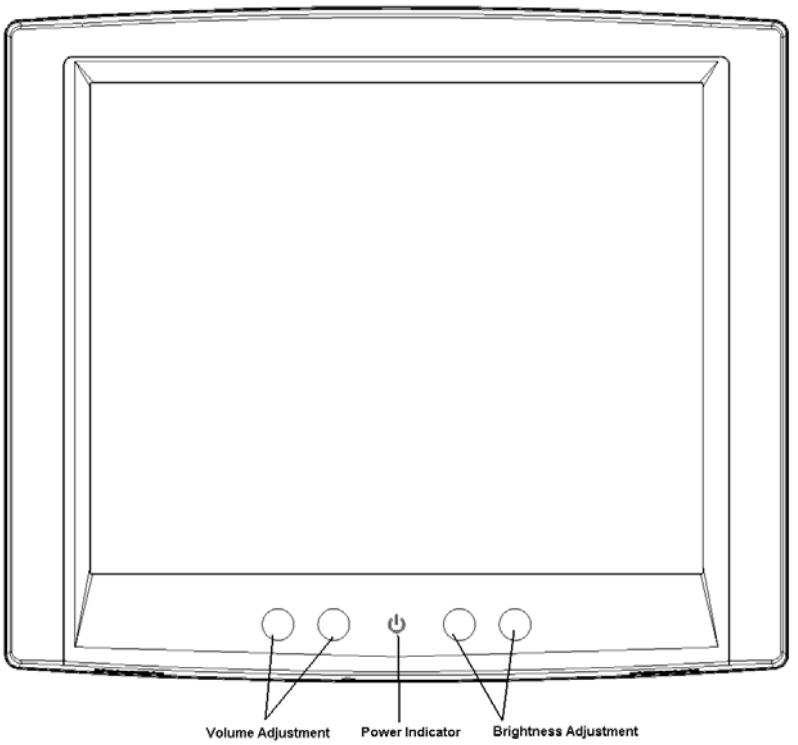


Figure 2.1: Front View of the Point of Care Terminal

When you look at the left side of the panel PC, you will see the floppy disk drive, CD-ROM drive and PCMCIA expansion sockets, as shown in Figure 2.2.

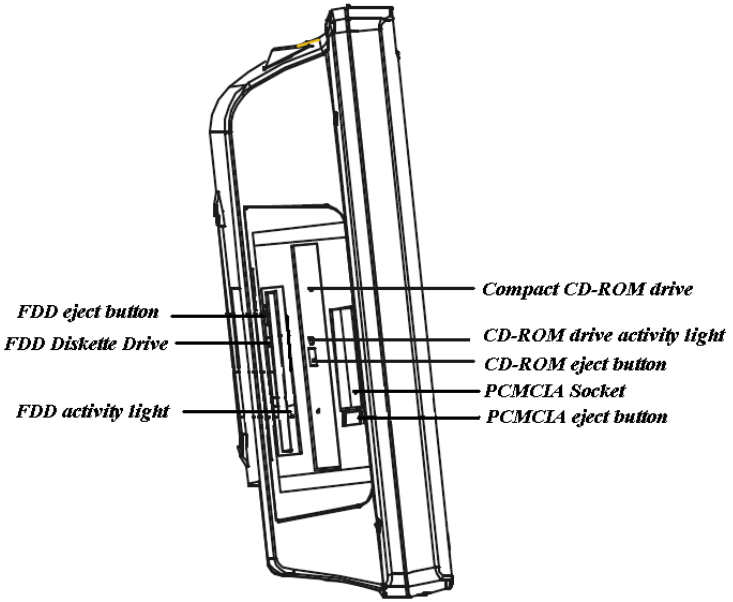


Figure 2.2: Left Side View of the Point of Care Terminal

When you turn the Point of Care Terminal around and look at its rear cover, you will find the PCI/ISA expansion slot located on the left side. This slot is covered by a side panel cover. The sunken I/O section is at the bottom of the panel PC, as shown in Figure 2.3. (The I/O section includes various I/O ports, including serial ports, parallel port, the Ethernet port, USB ports, the microphone jack, and so on.)

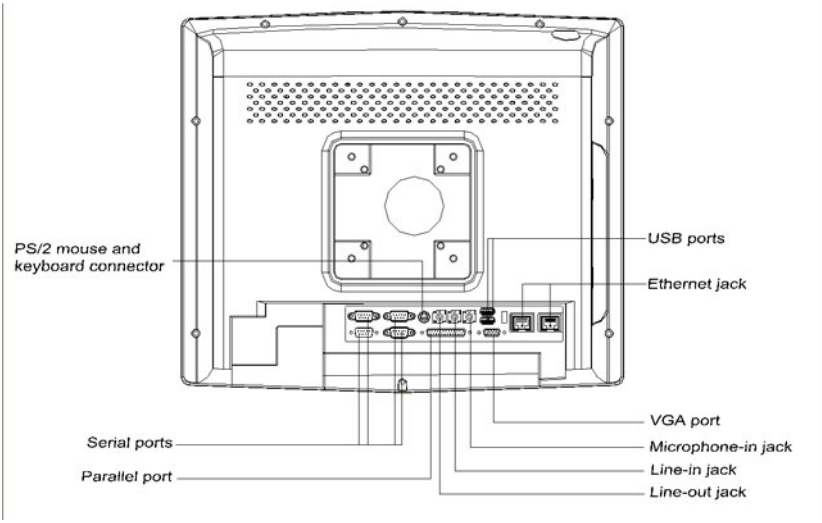


Figure 2.3: Rear View of the Point of Care Terminal

Figure 2.4 shows the I/O section and power switch of the POC-154.

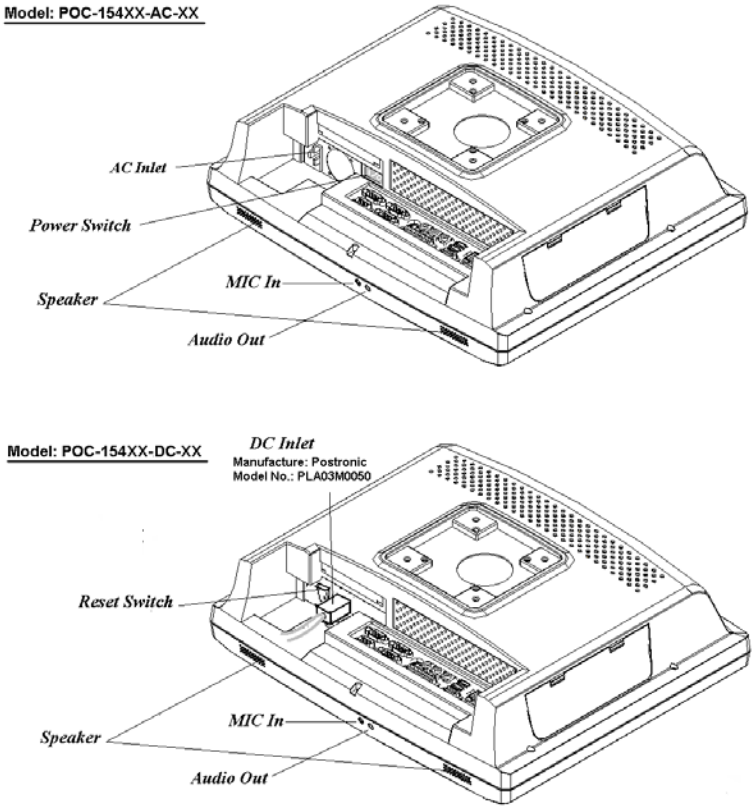


Figure 2.4: View of the I/O Section

2.2 Installation Procedures

2.2.1 2.2.1 Connecting the Power Cord (AC model only)

The POC-154xx-AC-xx could only be powered by an AC electrical outlet (100 ~ 240 volts, 50 ~ 60 Hz). Be sure to always handle the power cords by holding the plug ends only.

Follow these procedures in order:

1. Connect the female end of the power cord to the AC inlet of the panel PC. (See Figure 2.5)
2. Connect the 3-pin male plug of the power cord to an electrical outlet.

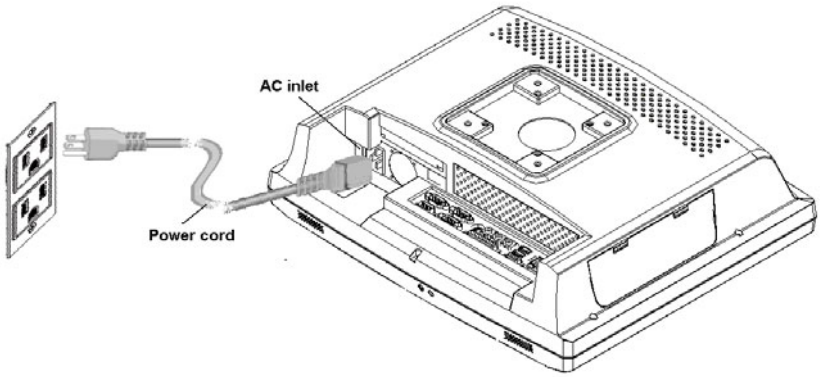


Figure 2.5: Connecting the Power Cord

3. After finishing the above installation, please jump to section 2.2.3 and continue your installation procedure.

2.2.2 Installing the DC Power Insulator with Hood (DC model only)

Note *This installation procedure must be done by service people or experienced system integrators.*

The POC-154xx-DC-xx is powered by an internal ATX power source (Manufacturer: ALPHA PLUS Model no.: MDP-810H). Follow the procedure in order to install the DC power insulator with hood then make sure to connect the insulator with the system.

- STEP 1: Connect the three contact pins individually to the negative and positive power cables of the power adaptor, as well as to the frame ground cable. Solder firmly..

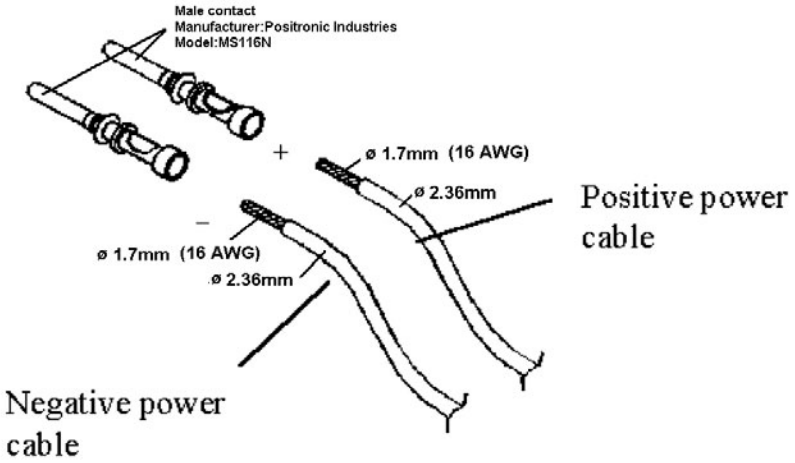


Figure 2.6: Making the Connectors

- STEP 2: Align the soldered pins and their cables with the corresponding polarization marks on the front part of the male insulator. Now plug the pins separately into the holes of the male insulator. Pin 1should go into the positive DC power input (+), pin 2 should be plugged into the negative DC power input (-).

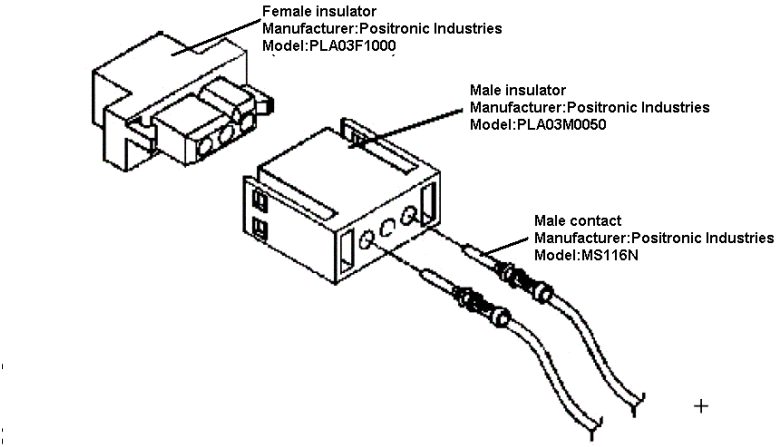


Figure 2.7: Connecting the Cables

- STEP 3: Mount the front part of the male insulator onto the bottom tray.

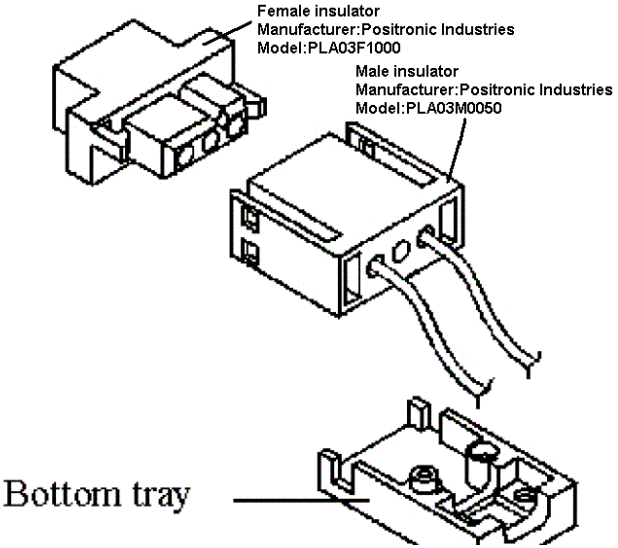


Figure 2.8: Assembling the Bottom Tray

- STEP 4: Use the metal plate and the two screws to secure the cables to the bottom tray. Please refer to the illustration above.

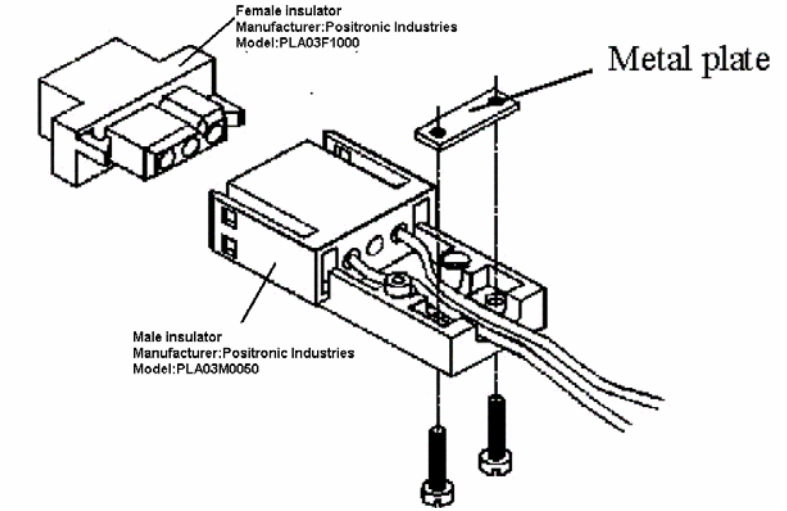


Figure 2.9: Securing the Cables

- STEP 5: Attach the upper cap to the bottom tray and secure it with the screws.

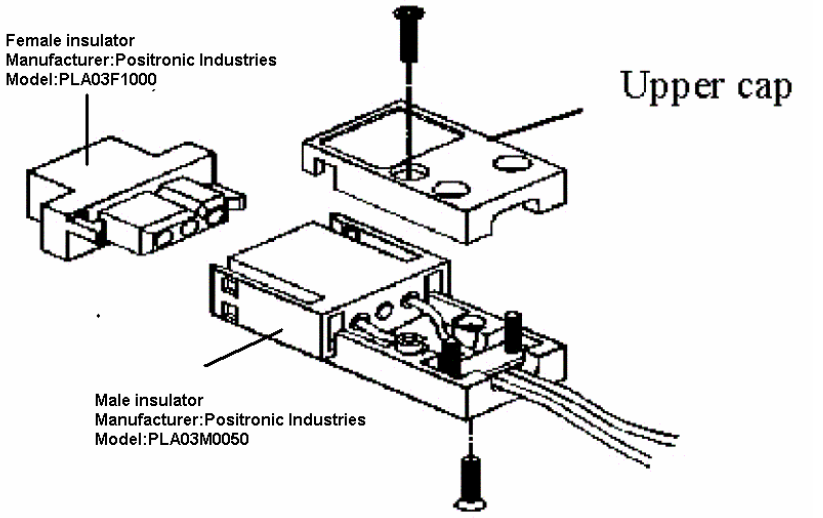


Figure 2.10: Assembling the Upper Cap

• STEP 6: Now that you have completed the assembly of the male insulator, plug it into the female insulator.

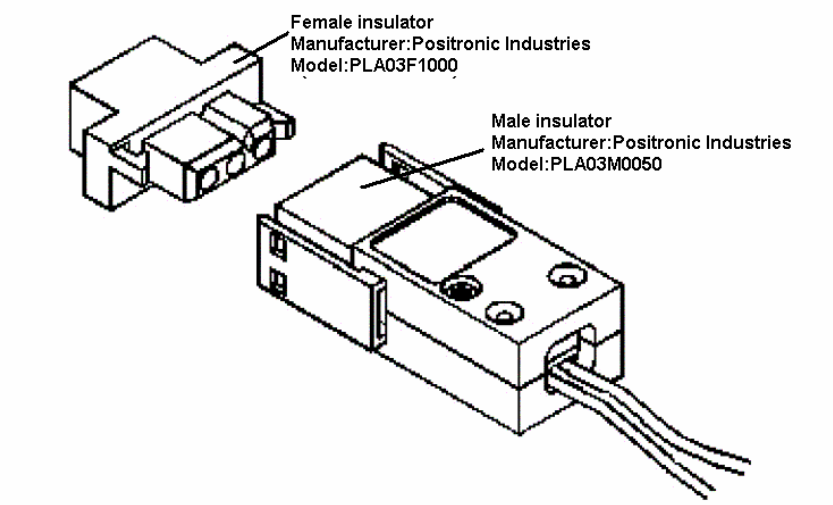


Figure 2.11: Plugging the Male Insulator into the Female Insulator

2.2.3 Connecting the Keyboard and Mouse

1. Connect the Y-shaped adapter to the PS/2 mouse and keyboard port on the I/O section of POC-154. (See Figure 2-12).
2. Connect the PS/2 mouse and keyboard to the Y-shaped adapter. (See Figure 2-12).

If you use a serial mouse and your POC-154 has a touchscreen, you can connect the mouse to any COM port except COM4.

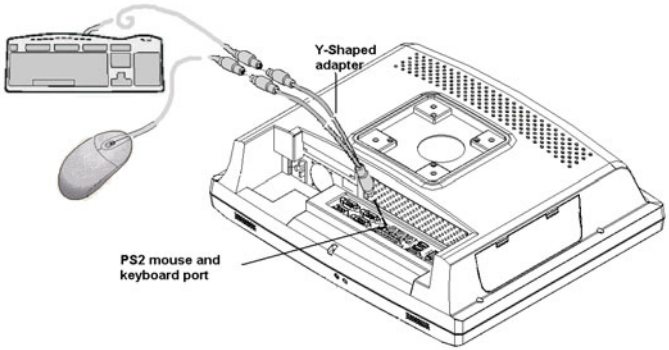


Figure 2.12: Connecting the Mouse and Keyboard

2.2.4 Switching on Power

Switch on the power switch on the rear cover. (See Figure 2-13).

2.2.5 Connecting the COM Ports (COM 1,2,3)

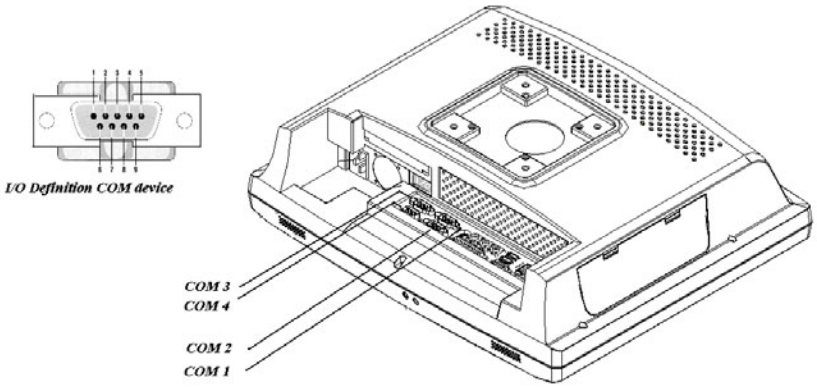


Figure 2.13: Connecting the Device to COM Ports

2.3 Running the BIOS Setup Program

Your POC-154 is likely to have been properly set up and configured by your dealer prior to delivery. You may still find it necessary to use the BIOS (Basic Input-Output System) setup program to change system configuration information, such as the current date and time or your type of hard drive. The setup program is stored in read-only memory. It can be accessed either when you turn on or reset the panel PC, by pressing the " Crtl+Alt+Del " keys on your keyboard immediately after turning on the computer.

The settings you specify with the setup program are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the power, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If an error occurs, an error message will be displayed on screen, and you will be prompted to run the setup program.

2.4 Installing System Software

Recent releases of operating systems from major vendors include setup programs which load automatically and guide you through hard disk preparation and operating system installation. The guidelines below will help you determine the steps necessary to install your operating system on the panel PC hard drive.

Note *Some distributors and system integrators may have already pre-installed system software prior to shipment of your panel PC.*

If required, insert your operating system's installation or setup diskette into the diskette drive until the release button pops out. (See Figure 2-14)

The BIOS supports system boot-up directly from the CD-ROM drive. You may also insert your system installation CD-ROM disk into the CD-ROM drive. (See Figure 2.14).

Power on or reset the system by pressing the "Ctrl"+"Alt"+"Del" keys simultaneously. The Point of Care Terminal will automatically load the operating system from the diskette or CD-ROM.

If you are presented with the opening screen of a setup or installation program, follow the instructions on screen. The setup program will guide you through preparation of your hard drive, and installation of the operating system.

If you are presented with an operating system command prompt, such as A:\>, then you must partition and format your hard drive, and manually copy the operating system files to it. Refer to your operating system user's manual for instructions on partitioning and formatting a hard drive.

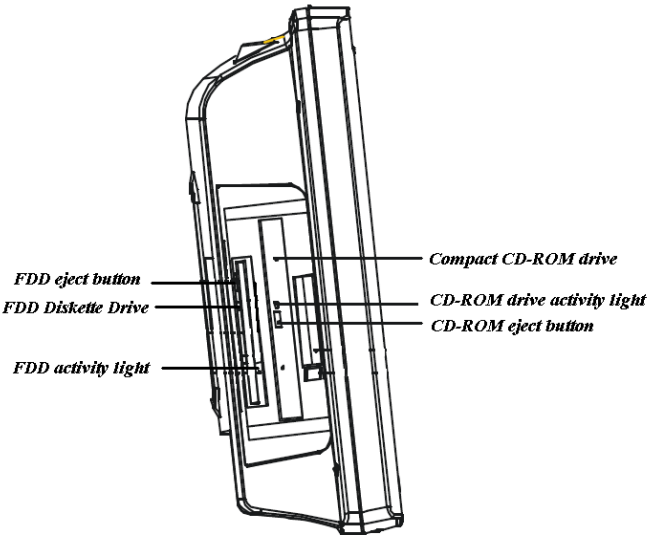


Figure 2.14: Insert the Disk into the CD-ROM Drive

2.5 Installing the Drivers

After installing your system software, you will be able to set up the Ethernet, SVGA, audio, PCMCIA and touchscreen functions. All the drivers except the CD-ROM drive driver are stored on a CD-ROM disc entitled "Drivers and Utilities." The CD-ROM drive driver is stored in a floppy disk. Both the CD-ROM and the floppy disk can be found in your accessory box.

To set up the CD-ROM function, insert the floppy disk with the CD-ROM drive driver into the floppy disk drive and type "install" after the following prompt is displayed on screen:

A: > INSTALL

Press "Enter", and the installation process will be completed in a few seconds.

The standard procedures for installing the Ethernet, SVGA, audio, PCMCIA and touchscreen drivers are described in Chapters 3, 4, 5, 6 and 7 respectively.

The utility directory includes multimedia programs. Refer to the README.TXT file inside the VGA folders for more detailed information.

The various drivers and utilities in the CD-ROM disc have their own text files which help users install the drivers and understand their functions. These files are a very useful supplement to the information in this manual.

For your reference, the directory of drivers on the "Drivers and Utilities" CD-ROM is:

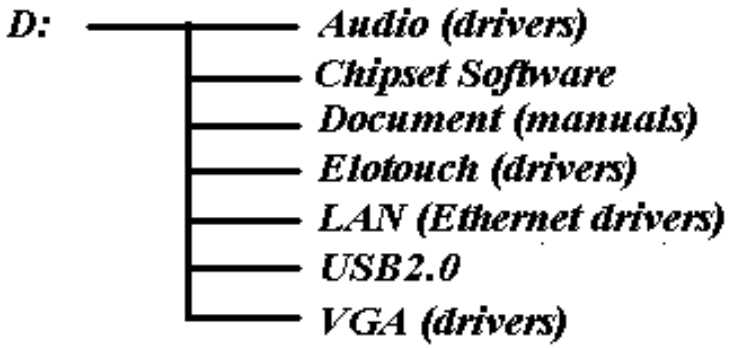


Figure 2.15: The File Directory on "Drivers and Utilities" CD-ROM

Note *The drivers and utilities used for the POC-154 panel PCs are subject to change without notice. If in doubt, check Advantech's website or contact our application engineers for the latest information regarding drivers and utilities.*

CHAPTER 3

PCI BUS Ethernet Interface

This chapter provides brief information on the Ethernet interface.

Sections include:

- Introduction
- Installation of Ethernet Driver
- Further Information

Chapter 3 PCI BUS Ethernet Interface

3.1 Introduction

The POC-154 is equipped with a high performance 32-bit Ethernet chipset which is fully compliant with IEEE 802.3 100 Mbps CSMA/CD standards. It is supported by major network operating systems. It is also both 100Base-T and 10Base-T compatible.

The Ethernet port provides a standard RJ-45 jack. The network boot feature can be utilized by incorporating the boot ROM image files for the appropriate network operating system. The boot ROM BIOS files are combined with system BIOS, which can be enabled/disabled in the BIOS setup.

3.2 Installation of Ethernet Driver

3.2.1 Installation for Windows 2000/XP

After finishing the Windows 2000/XP installation, the system will automatically detect the Ethernet hardware and install the Ethernet driver from the driver database of Windows 2000/XP when the system reboots. Users are not required to install the Ethernet driver themselves.

3.3 Further information

For further information about the Ethernet installation in your POC-154, including driver updates, troubleshooting guides and FAQ lists please visit the following web resources.

Realtek website: www.realtek.com.tw

Advantech website: www.advantech.com

CHAPTER 4

AGP SVGA Setup

This chapter introduces the Intel chipset used by POC-154 and has brief information on the installation of the driver.

Sections include:

- Introduction
- Installation of SVGA Driver
- Further Information

Chapter 4 AGP SVGA Setup

4.1 Introduction

The POC-154 has an onboard AGP flat panel/VGA interface. The specifications and features are described as following sections.

4.1.1 Chipset

POC-154 uses an Intel 845GV chipset from Intel for its AGP/SVGA controller. It supports many popular LCD, EL, and gas plasma flat panel displays and conventional analog CRT monitors. The Intel 845GV VGA BIOS supports monochrome LCD, EL, color TFT and STN

LCD flat panel displays. In addition, it also supports interlaced and non-interlaced analog monitors (color and monochrome VGA) in high resolution modes while maintaining complete IBM VGA compatibility. Digital monitors (i.e. MDA, CGA, and EGA) are NOT supported. Multiple frequency (multisync) monitors are handled as if they were analog monitors.

4.1.2 Display Memory

The VGA controller can drive CRT displays or color panel displays with resolutions up to 1280 x 1024 at 16M colors.

4.1.3 Display Types

CRTs and panel displays can be used simultaneously. The POC-154 can be set in one of three configurations: on a CRT, on a flat panel display, or on both simultaneously. The system is initially set to simultaneous display mode. If you want to enable the CRT display only or the flat panel display only, contact Silicon Motion Inc. or our sales representative for detailed information.

4.2 Installation of SVGA Driver

Complete the following steps to install the SVGA driver. Follow the procedures in the flow chart that apply to the operating system that you are using with your POC-154.

Important *The following Windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.*

Note1 *The CD-ROM drive is designated as "D" throughout this chapter.*

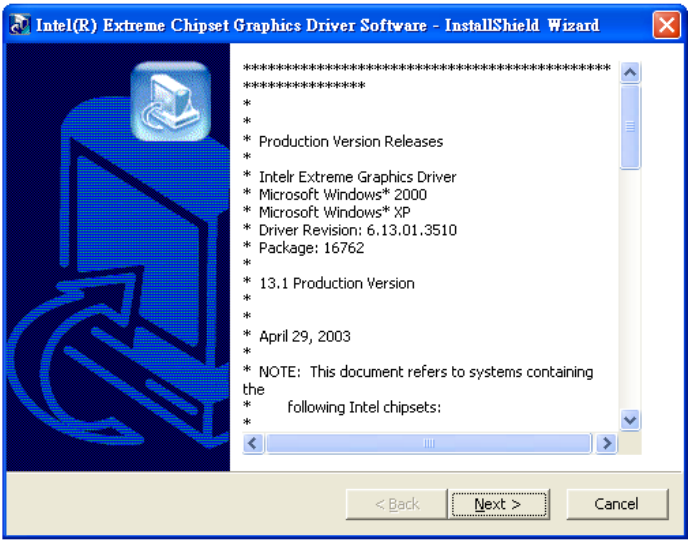
Note2 *<Enter> means pressing the "Enter" key on the keyboard.*

Note3 *Before you install the graphic driver of POC-154, please ensure you have installed the INF driver of the Intel 845GV chipset. You can find this driver in the Utility CD-ROM.*

4.2.1 Installation for Windows 2000/XP

1. Click on the “Start” button and select “Run”, Type the path “D:\VGA\win2k_xp131.exe”, Click on the “OK” button.

2. Click on the "Next" button. The operating system will install the driver. Click on the "Finish" button when done.


Intel(R) Extreme Chipset Graphics Driver Software - InstallShield Wizard
****
* Production Version Releases
* Intelr Extreme Graphics Driver
* Microsoft Windows* 2000
* Microsoft Windows* XP
* Driver Revision: 6.13.01.3510
* Package: 16762
* 13.1 Production Version
* April 29, 2003
* NOTE: This document refers to systems containing the
following Intel chipsets:
< Back
Next >
Cancel

3. Click on the "Close" button and then click on the "Yes" button to reboot. The driver should now be loaded.

4.3 Further Information

For further information about the AGP/SVGA installation in your POC-154, including driver updates, troubleshooting guides and FAQ lists please visit the following web resources.

Intel website: **www.intel.com.tw**

Advantech website: **www.advantech.com**

CHAPTER 5

Audio Interface

This chapter covers POC-154's audio interface.

Sections include:

- Introduction
- Installation of Audio Driver
- Further Information

Chapter 5 Audio Interface

5.1 Introduction

The POC-154's onboard audio interface provides high-quality stereo sound and FM music synthesis (ESFM) by using the ALC202 audio controller from Realtek. The audio interface can record, compress, and play back voice, sound, and music with a built-in mixer control. The

POC-154's on-board audio interface also supports the Plug & Play (PnP) standard and provides PnP configuration for audio, FM, and MPU-104 logical devices. It is compatible with Sound Blaster, Sound Blaster Pro version 3.01, voice, and music functions. The ESFM synthesizer is register compatible with the OPL3 and has extended capabilities.

5.2 Installation of Audio Driver

Before installing the audio driver, please take note of the procedures detailed below. You must know which operating system you are using in your POC-154, and then refer to the corresponding installation flow chart. Just follow the steps in the flow chart. You can quickly and successfully complete the installation, even though you are not familiar with instructions for Windows.

Important *The following Windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.*

Note1 *The CD-ROM drive is designated as “D” throughout this chapter.*

Note2 *<Enter> means pressing the “Enter” key on the keyboard.*

5.2.1 Installation for Windows 2000/XP

1. Click on the “Start” button and select “Run”, type the path: “D:\ \Audio\Audio_wdm\Setup.exe ”, and click on the “OK” button.

2. Click on the "Next" button. The operating system will install the driver. Click on the "Finish" button when done.

3. Click on the "Close" button and then click on the "Yes" button to reboot. The driver should now be loaded.

5.3 Further information

For further information about the Audio interface installation in your POC-154, including driver updates, troubleshooting guides and FAQ lists please visit the following web resources.

Realtek website: www.realtek.com.tw

Advantech website: www.advantech.com

CHAPTER 6

PCMCIA Interface

This chapter introduces the PCMCIA interface.

Sections include:

- Introduction
- Installation of PCMCIA driver

Chapter 6 PCMCIA Interface

6.1 Introduction

The POC-154 is equipped with a high performance PCMCIA interface which complies with the 1995 PCMCIA card standard by using the RICOH CardBus controller. The panel PC supports two PCMCIA card/ CardBus slots. Two sockets support both a 16-bit PCMCIA card and a 32-bit CardBus simultaneously, with hot insertion and removal.

6.2 Installation of PCMCIA Driver

6.2.1 Installation for Windows 2000 / XP

After finishing the Windows 2000/XP installation, the system will automatically detect the PCMCIA hardware and install the PCMCIA driver from the driver database from Windows 2000/XP when the system reboots. Users are not required to install the PCMCIA driver themselves.

CHAPTER 7

Touchscreen Interface

This chapter introduces the touchscreen interface, and the installation of its driver.

Sections include:

- Introduction
- Installation of driver for touchscreen
- Further information

Chapter 7 Touchscreen Interface

7.1 Introduction

7.1.1 General Information

The POC-154's optional touchscreen incorporates advanced second-generation 5-wire resistive technology. They allow 75% light transmission respectively. The resistive and capacitive models have an antiglare surface. All models provide greatly enhanced visual resolution. They also have new improved scratch-resistant features.

The touchscreen is manufactured from UL-recognized components. When properly installed, the touchscreen's ball impact resistance meets the UL 1950 standard. Its fire resistance meets the UL-746C, 19 mm (0.75") flame test standard. Systems incorporating the touchscreen, controllers, and cables have been approved to FCC Class A and Class B standards.

7.1.2 General Specifications

Please refer to Chapter 1, Section 1.2 of this manual.

7.1.3 Environmental Specifications

Temperature:

0 ~ 40° C (operating)

-20 ~ 60° C (storage)

Relative Humidity:

90 RH at 35° C (operating)

90 RH at 35° C for 240 hours, non-condensing (storage)

Chemical Resistance: The active area of the touchscreen is resistant to the following chemicals when exposed for a period of one hour at a temperature of 21° C (71° F):

- Acetone
- Methylene chloride
- Methyl ethyl ketone
- Isopropyl alcohol
- Hexane
- Ammonia-based glass cleaners
- Turpentine
- Mineral spirits
- Foods and beverages

7.2 Installation of Driver for Touchscreen

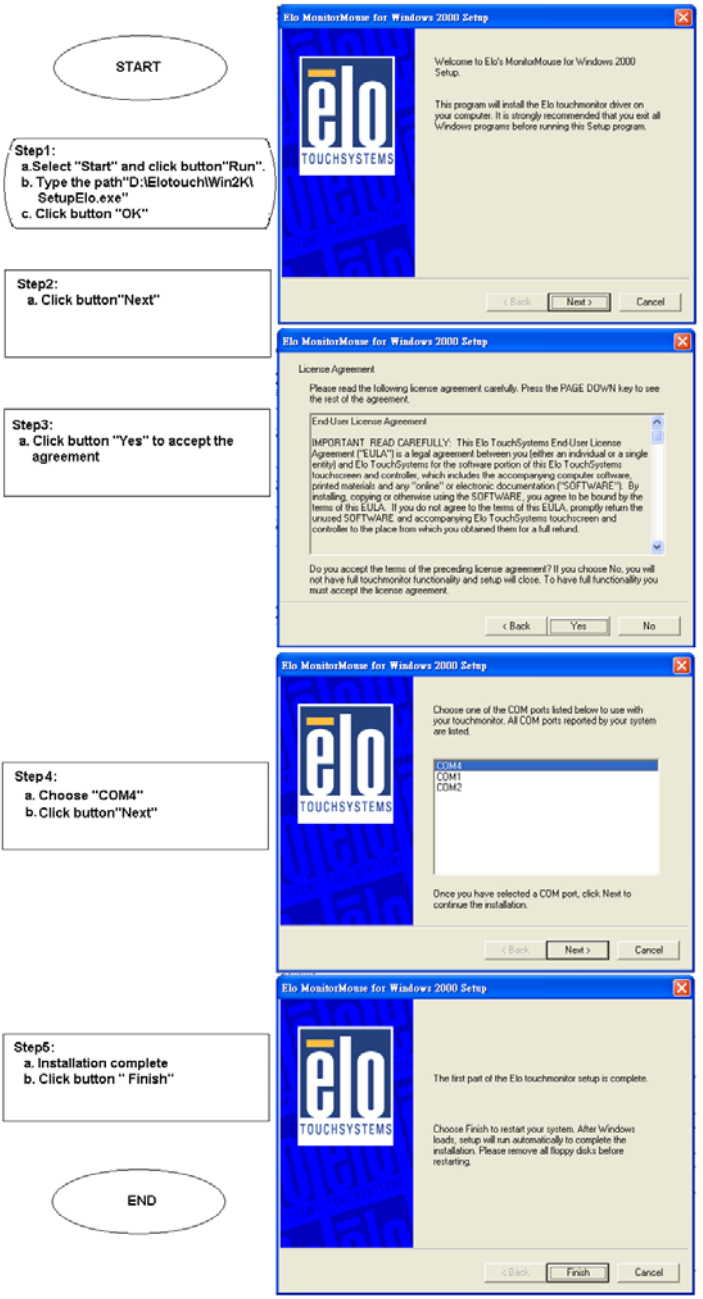
To facilitate installation of the touchscreen driver, you should read the instructions in this section carefully before you attempt installation.

Important *The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.*

Note1 *The CD-ROM drive is designated as "D" throughout this chapter.*

Note2 *<Enter> means pressing the "Enter" key on the keyboard.*

7.2.1 Installation for Windows 2000


START
Step1:
a.Select "Start" and click button"Run".
b. Type the path"D:\Elotouch\Win2K\SetupElo.exe"
c. Click button "OK"
Step2:
a. Click button"Next"
Step3:
a. Click button "Yes" to accept the agreement
Step4:
a. Choose "COM4"
b. Click button"Next"
Step5:
a. Installation complete
b. Click button " Finish"
END
Elo MonitorMouse for Windows 2000 Setup
Welcome to Elo's MonitorMouse for Windows 2000 Setup.
This program will install the Elo touchmonitor driver on your computer. It is strongly recommended that you exit all Windows programs before running this Setup program.
< Back
Next >
Cancel
Elo MonitorMouse for Windows 2000 Setup
License Agreement
Please read the following license agreement carefully. Press the PAGE DOWN key to see the rest of the agreement.
End-User License Agreement
IMPORTANT READ CAREFULLY: This Elo TouchSystems End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Elo TouchSystems for the software portion of this Elo TouchSystems touchscreen and controller, which includes the accompanying computer software, printed materials and any "online" or electronic documentation ("SOFTWARE"). By installing, copying or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA. If you do not agree to the terms of this EULA, promptly return the unused SOFTWARE and accompanying Elo TouchSystems touchscreen and controller to the place from which you obtained them for a full refund.
Do you accept the terms of the preceding license agreement? If you choose No, you will not have full touchmonitor functionality and setup will close. To have full functionality you must accept the license agreement.
< Back
Yes
No
Elo MonitorMouse for Windows 2000 Setup
Choose one of the COM ports listed below to use with your touchmonitor. All COM ports reported by your system are listed.
COM4
COM1
COM2
Once you have selected a COM port, click Next to continue the installation.
< Back
Next >
Cancel
Elo MonitorMouse for Windows 2000 Setup
The first part of the Elo touchmonitor setup is complete.
Choose Finish to restart your system. After Windows loads, setup will run automatically to complete the installation. Please remove all floppy disks before restarting.
< Back
Finish
Cancel

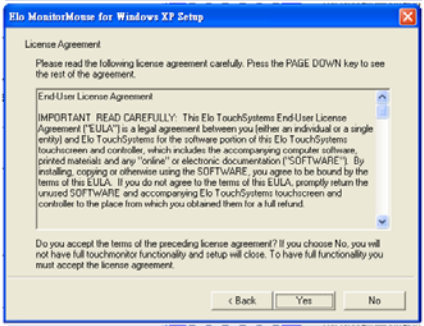
7.2.2 Installation for Windows XP

START

Step1:
a.Select "Start" and click button"Run".
b. Type the path"D:\Elotouch\Win2K\SetupElo.exe"
c. Click button "OK"

Elo MonitorMouse for Windows XP Setup
Welcome to Elo's MonitorMouse for Windows XP Setup.
This program will install the Elo touchmonitor driver on your computer. It is strongly recommended that you exit all Windows programs before running this Setup program.
< Back
Next >
Cancel

Step2:
a. Click button"Next"


Elo MonitorMouse for Windows XP Setup
License Agreement
Please read the following license agreement carefully. Press the PAGE DOWN key to see the rest of the agreement.
End-User License Agreement
IMPORTANT READ CAREFULLY: This Elo TouchSystems End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Elo TouchSystems for the software portion of this Elo TouchSystems touchscreen and controller, which includes the accompanying computer software, printed materials and any "online" or electronic documentation ("SOFTWARE"). By installing, copying or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA. If you do not agree to the terms of this EULA, promptly return the unused SOFTWARE and accompanying Elo TouchSystems touchscreen and controller to the place from which you obtained them for a full refund.
Do you accept the terms of the preceding license agreement? If you choose No, you will not have full touchmonitor functionality and setup will close. To have full functionality you must accept the license agreement.
< Back
Yes
No

Step3:
a. Click button "Yes" to accept the agreement

Step4:
a. Choose "COM4"
b. Click button"Next"

Elo MonitorMouse for Windows XP Setup
Choose one of the COM ports listed below to use with your touchmonitor. All COM ports reported by your system are listed.
COM4
COM1
COM2
Once you have selected a COM port, click Next to continue the installation.
< Back
Next >
Cancel

Step5:
a. Installation complete
b. Click button " Finish"

Elo MonitorMouse for Windows XP Setup
The first part of the Elo touchmonitor setup is complete.
Choose Finish to restart your system. After Windows loads, setup will run automatically to complete the installation. Please remove all floppy disks before restarting.
< Back
Finish
Cancel

END

7.3 Further information

For further information about the Touchscreen installation in your POC-154, included Driver updates, troubleshooting guides and FAQ lists please visit the following web resources.

Elo website: www.elotouch.com

Advantech website: www.advantech.com

APPENDIX A

Programming the Watchdog Timer

Appendix A Programming the Watchdog Timer

To program the watchdog timer, you must write a program which writes to I/O port address 443 (hex). The output data is a time interval value. The value range is from 01 (hex) to 3E (hex), and the related time interval is from 1 sec. to 62 sec.

Data	Time Interval
01	1 sec.
02	2 sec.
03	3 sec.
04	4 sec.
• •	
• •	
• •	
3E	62 sec.

After data entry, your program must refresh the watchdog timer by rewriting the I/O port 443 (hex) while simultaneously setting it. When you want to disable the watchdog timer, your program should read I/O port 443 (hex).

The following example shows how you might program the watchdog timer in BASIC:

```
10      REM  Watchdog timer example program
20      OUT &H443, data REM  Start and restart the
        watchdog
30      GOSUB 1000 REM  Your application task #1,
40      OUT &H443, data REM  Reset the timer
50      GOSUB 2000 REM  Your application task #2,
60      OUT &H443, data REM  Reset the timer
70      X=INP (&H443) REM, Disable the watchdog timer
80      END

1000    REM  Subroutine #1, your application task
•       •
•       •
•       •
1070    RETURN
2000    REM  Subroutine #2, your application task
•       •
•       •
•       •
2090    RETURN
```

Figure A.1: Watchdog Programming Example in BASIC

APPENDIX B

Description of Interfaces

Appendix B Description of Interfaces

B.1 ATX Power Connector

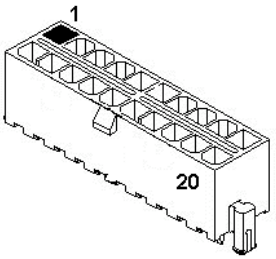


Figure B.1: POC-154 ATX Power Connector

Table B.1: ATX Power Connector (CN26)	
Pin No.	**Signal Description**
1	3.3V
2	3.3V
3	GND
4	5V
5	GND
6	5V
7	GND
8	POK
9	5 VSB
10	12 V
11	3.3V
12	-12V
13	GND
14	PSON
15	GND
16	GND
17	GND
18	-5V
19	5V
20	5V

B.2 TV Output Connector (Reserved)

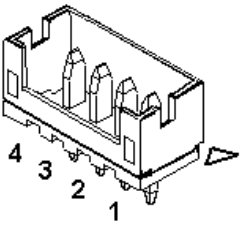


Figure B.2: POC-154 TV Output Connector

Table B.2: TV Output Connector (CN25)	
Pin No.	**Signal Description**
1	Y signal
2	C signal
3	GND
4	CVBS

B.3 Inverter Power Connector

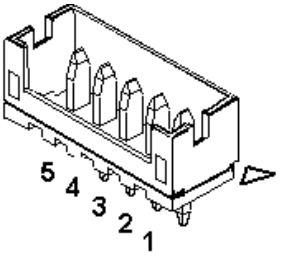


Figure B.3: POC-154 Inverter Power Connector

Table B.3: Inverter Power Connector (CN29)	
Pin No.	**Signal Description**
1	+12 V
2	GND
3	ENABLE
4	Brightness Adjustment
5	+5V

B.4 Internal Speaker Connector (*Reserved)

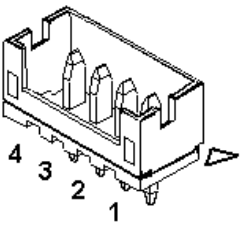


Figure B.4: POC-154 Internal Speaker Connector

Table B.4: Internal Speaker Connector (CN15)	
Pin No.	**Signal Description**
1	Speaker out_R-
2	Speaker out_R+
3	Speaker out_L+
4	Speaker out_L-

B.5 IR Connector (Reserved)

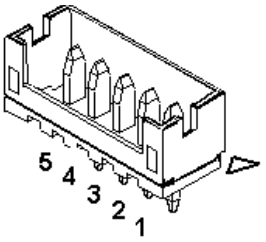


Figure B.5: POC-154 IR Connector

Table B.5: IR Connector (CN20)	
Pin No.	**Signal Description**
1	Vcc
2	NC
3	IR_IN
4	GND
5	IR_OUT

B.6 Front Panel Control Connector (*Reserved)

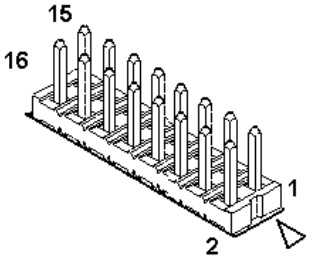


Figure B.6: POC-154 Flat Panel Control Connector

Table B.6: Front Panel Control Connector (CN21)	
Pin No.	Signal Description
1	Vcc
2	GND
3	PWR LED
4	GND
5	HDD LED
6	NC (Reserved)
7	NC (Reserved)
8	NC (Reserved)
9	NC (Reserved)
10	NC (Reserved)
11	NC (Reserved)
12	NC (Reserved)
13	Power SW+
14	Power SW-
15	RESET SW
16	GND

B.7 Floppy Drive Connector

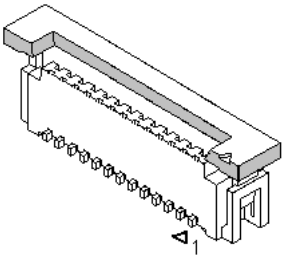


Figure B.7: POC-154 Floppy Drive Connector

Table B.7: Floppy Drive Connector (CN17)	
Pin No.	**Signal Description**
1	Vcc (+5V)
2	INDEX
3	Vcc (+5V)
4	DRIVE SELECT
5	Vcc (+5V)
6	DISK CHANGE
7	NC
8	NC
9	NC
10	NC MOTOR ON
11	NC
12	DIRECTION
13	DENSITY SELECT
14	STEP
15	GND
16	WRITE ENABLE
17	GND
18	WRITE DATA
19	GND
20	TRACK 0
21	GND
22	WRITE PROTECT
23	GND
24	READ DATA
25	GND
26	SIDE SELECT

B.8 EIDE Hard Disk Drive Connector

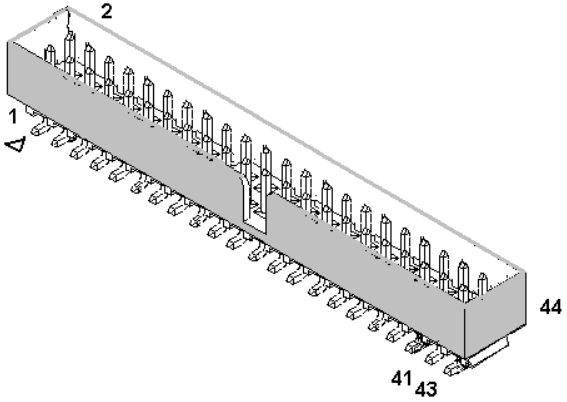


Figure B.8: POC-154 EIDE Hard Drive Connector

Table B.8: EIDE Hard Disk Connector (CN31)	
Pin No.	**Signal Description**
1	IDE RESET#
2	GND
3	DATA7
4	DATA8
5	DATA6
6	DATA9
7	DATA5
8	DATA10
9	DATA4
10	DATA11
11	DATA3
12	DATA12
13	DATA2
14	DATA13
15	DATA1
16	DATA14
17	DATA0
18	DATA15
19	SIGNAL GND

Table B.8: EIDE Hard Disk Connector (CN31)	
20	NC
21	HDD DREQ
22	GND
23	IO WRITE
24	GND
25	IO READ
26	GND
27	HD READY
28	CABLE SELECT
29	HD ACK0#
30	GND
31	IRQ14
32	NC
33	ADDR1
34	NC
35	ADDR0
36	ADDR2
37	HDD SELECT 0#
38	HDD SELECT 1#
39	IDE ACTIVE 0#
40	GND
41	Vcc
42	Vcc
43	GND
44	NC

Low active

B.9 CD-ROM Connector

Table B.9: CD-ROM connector (CN27)	
Pin No.	**Signal Description**
1	Audio_L
2	Audio_R
3	GND
4	GND
5	IDE RESET #
6	DATA8
7	DATA7
8	DATA9
9	DATA6
10	DATA10
11	DATA5
12	DATA11
13	DATA4
14	DATA12
15	DATA3
16	DATA13
17	DATA2
18	DATA14
19	DATA1
20	DATA15
21	DATA0
22	HDD DREQ
23	GND
24	IO READ
25	IO WRITE
26	GND
27	HD READY
28	HD ACK0#
29	IRQ15
30	NC
31	ADDR1
32	NC
33	ADDR0
34	ADDR2
35	HDD SELECT 0#
36	HDD SELECT 1#
37	Vcc (+5V)
38	Vcc (+5V)
39	GND
40	GND

B.10 CPU Fan Power Connector

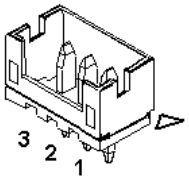


Figure B.9: POC-154 CPU Fan Connector

Table B.10: CPU Fan Power Connector (FAN1)	
Pin No.	**Signal Description**
1	GND
2	+12V
3	FAN_DET

B.11 System Fan Power Connector

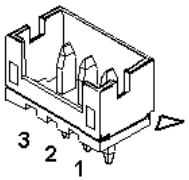


Figure B.10: POC-154 System Fan Connector

Table B.11: System Fan Power Connector (FAN2)	
Pin No.	**Signal Description**
1	GND
2	+12V
3	FAN_DET

B.12 Touchscreen Connector

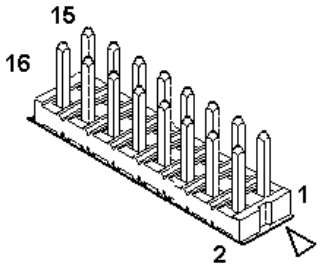


Figure B.11: POC-154 Touchscreen Connector

Table B.12: Touchscreen Connector (CN19)	
Pin No.	Signal Description
1	NRLSD
2	NDSR
3	NRX
4	NRTS
5	NTX
6	NCTS
7	NDTR
8	NRI
9	GND
10	GND
11	MSDAT
12	EXT MSDAT
13	MSCLK
14	EXT MSCLK
15	Vcc
16	Vcc

B.13 PCI Bus Expansion Connector (SLOT1)

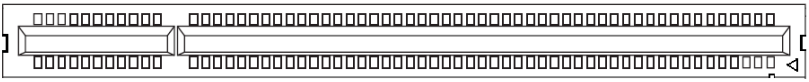
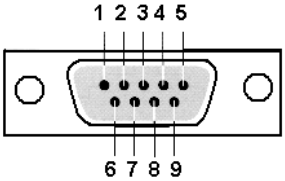


Figure B.12: POC-154 PCI Slot Connector

Note *This PCI slot uses standard PCI Bus V2.2. If you wish to use this slot, you can connect the add-on cards directly without any issues.*

B.14 COM2



I/O Definition COM device

Figure B.13: POC-154 COM2 Connector

Table B.13: COM2 Pin Assignment

Configure	Signal Description		
Pin No.	**RS-232**	**RS-422**	**RS-485**
1	DCD	TX-	DATA-
2	RX	TX+	DATA+
3	TX	RX+	--
4	DTR	RX-	--
5	GND	GND	--
6	DSR	--	--
7	RTS	--	--
8	CTS	--	--
9	RI	--	--

APPENDIX C

Hardware Installation

Appendix C Hardware Installation

C.1 Overview of Hardware Installation and Upgrading

The Point of Care Terminal consists of a PC-based computer that is housed in a plastic rear panel and a metal shielding case. Your HDD, DDR DRAM, power supply, CPU, and so on are all readily accessible by removing the rear panel and shielding case. Any maintenance or hardware upgrades can be easily completed after removing the rear panel and shielding case.

Note *The color LCD display installed in the Point of Care Terminal is high-quality and reliable. However, it may contain a few defective pixels which do not always illuminate. With current technology, it is impossible to completely eliminate defective pixels. Advantech is actively working to improve this technology.*

Warning *Do not remove the plastic rear cover until you have verified that no power is flowing within the panel PC.*

Power must be switched off and the power cord must be unplugged. Every time you service the panel PC, you should be aware of this.

C.2 Disassembling the Panel PC

The following are standard procedures for disassembling the Point of Care Terminal before you upgrade your system. All procedures are illustrated in Figure C.1.

1. Unscrew the screws that secure the plastic rear cover, and then remove the cover.
2. Unscrew the screws that secure the CPU cover.
3. Remove the floppy drive, HDD, and CD-ROM cables; then remove the side panel.
4. Unscrew the screws of the shielding case, and remove it.

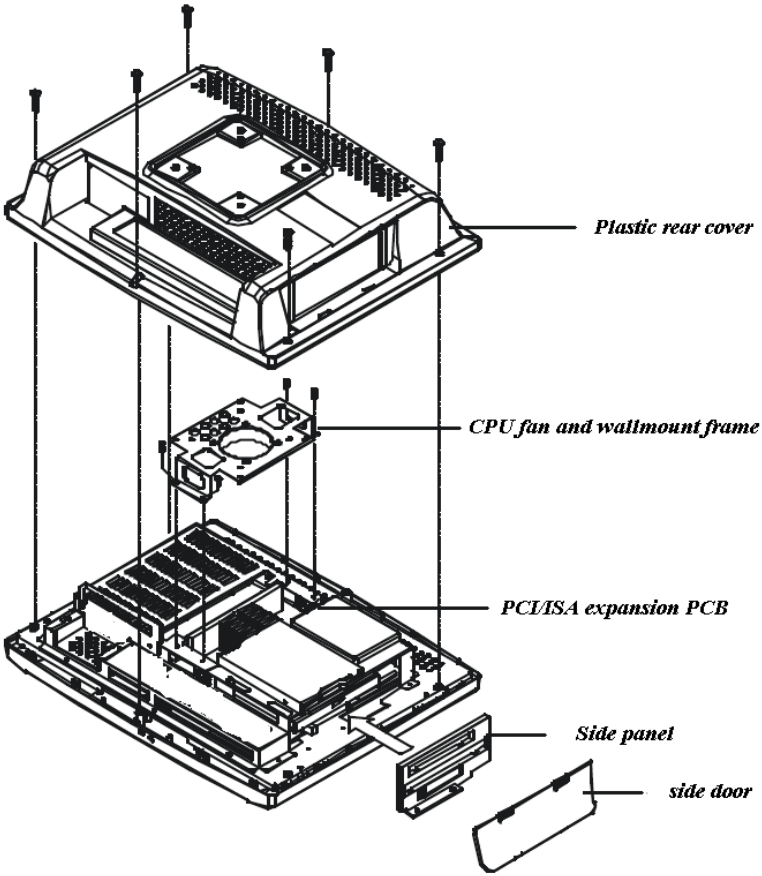


Figure C.1: Disassembling the Plastic Rear Cover of POC-154.

C.3 Installing a 2.5” Hard Disk Drive (HDD)

You can attach one enhanced Integrated Device Electronics (IDE) hard disk drive to the Point of Care Terminal's internal controller which uses a PCI local-bus interface. The advanced IDE controller supports faster data transfer and allows the IDE hard drive to exceed 60 GB. The following are instructions for installation:

1. Detach and remove the plastic rear cover and side panel.
2. There is a metal plate which holds the HDD to the upper right-hand side of the metal shielding case. (See Figure C-2.) Remove the two screws on the metal plate.
3. Pull the metal plate toward the outside of the unit, and remove it from the two lugs of the shielding case.
4. Place the HDD on the metal plate, and tighten the four screws from the bottom of the metal plate.
5. The HDD cable (1 x 44-pin to 1 x 44-pin) is next to the metal plate. Connect the HDD cable to the HDD. The other end of the HDD cable is connected to the PC board (CN16). Make sure that the red/ blue wire corresponds to pin 1 on the connector, which is labeled on the board. Plug the other end of the cable into the IDE hard drive, with pin 1 on the cable corresponding to pin 1 on the hard drive.

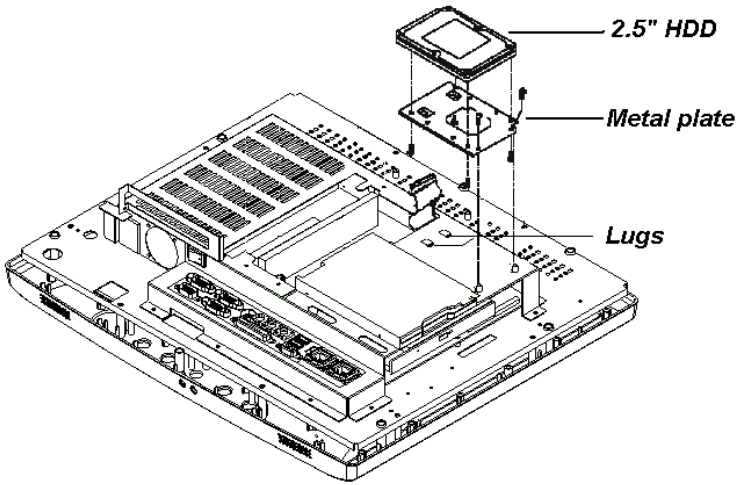


Figure C.2: Installing the Primary 2.5“ HDD

C.4 Installing a Central Processing Unit (CPU)

The Point of Care Terminal's central processing unit (CPU) can be upgraded to improve system performance. The Point of Care Terminal provides one 478-pin ZIF (Zero Insertion Force) socket (Socket 478). The CPU must come with an attached heat sink and CPU fan to prevent overheating.

Warning *The CPU may be damaged if operated without a heat sink and a fan.*

Caution *Always disconnect the power cord from your panel PC when you are working on it. Do not make connections while the power is on as sensitive electronic components can be damaged by the sudden rush of power. Only experienced electronics personnel should open the panel PC.*

1. Detach and remove the plastic rear cover.

2. Remove the four screws of the CPU cover, and remove the cover.

3. Detach the CPU fan power cable from the CPU fan.

4. There is a metal plate which holds the FDD and slim CD-ROM drive to the metal shielding case. There are two screws ("A") on this metal plate. Loosen these two screws.

5. Remove the plastic side cover of the FDD.

6. Push the FDD and slim CD-ROM drive toward the outside of the panel PC, as far as they will go. This will expose the entire CPU assembly underneath.

7. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket, then upwards at an angle of 90 degrees.

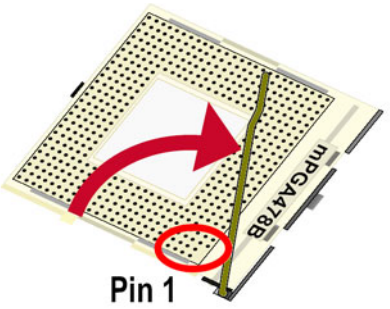


Figure C.3: Preparing ZIF Socket

8. Insert the CPU with correct orientation. The notched corner of the CPU (with the white dot) should point towards the end of the lever. The end of the lever is the blank area where one hole is missing from the corner of the square array of pin holes. An arrowhead printed on the motherboard points to the end of the lever.

9. Slide the CPU in gently. It should insert easily. If not, pull the lever up a little more and make sure the pins of the CPU correspond with the holes of the socket. DO NOT USE EXCESSIVE FORCE!

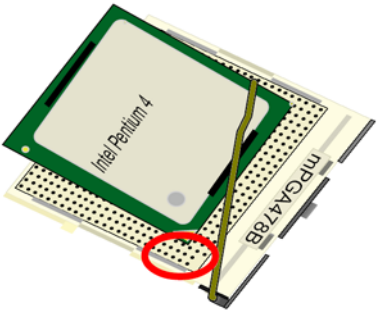


Figure C.4: Placing CPU

10. Press the lever down. The plate will slide across slightly.

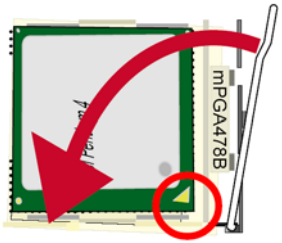


Figure C.5: Lever Lock

11. Place the heat sink on top of the CPU and fasten it with the heat sink clip (shown in Figure. C.6).

12. Move the FDD and slim CD-ROM drive back to their original position.

13. Put back the plastic side cover of the FDD.

14. Tighten the two screws ("A") on the metal plate.

15. Connect the CPU fan power cable to the 3-pin connector (FAN1).

16. Put back the CPU cover, and secure the four screws on it.

Note *To remove the CPU, follow steps 1 through 7 above.*
You should then be able to freely lift out the CPU chip.

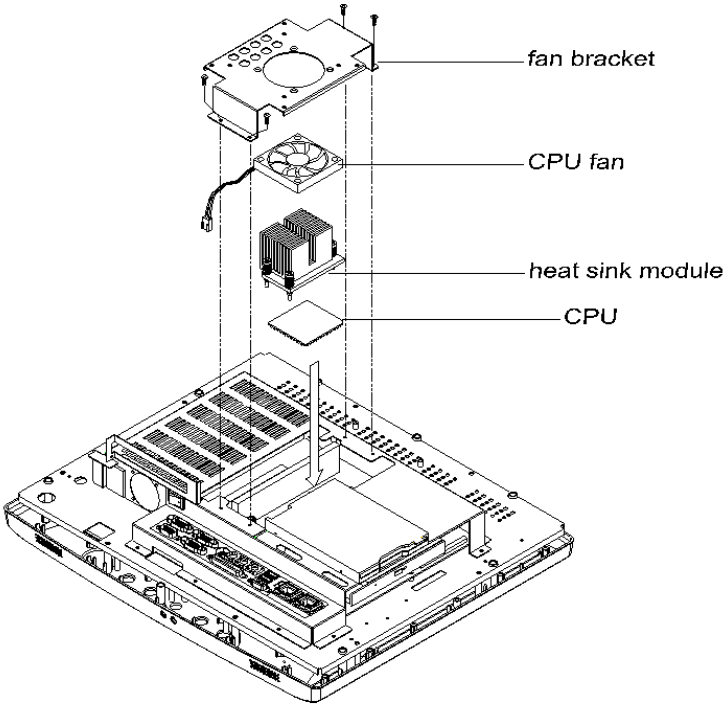


Figure C.6: Installing the Central Processing Unit

APPENDIX D

Jumpers & Connectors

Appendix D Jumpers & Connectors

D.1 Jumpers and Connectors

D.1.1 Setting Jumpers

You can configure your Point of Care Terminal to match the needs of your application by setting jumpers. A jumper is the simplest kind of electrical switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper, you connect the pins with the clip.

To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either pins 1 and 2 or pins 2 and 3.

The jumper settings are schematically depicted in this manual as follows:

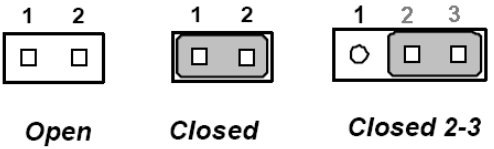


Figure D.1: Jumper Settings

A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

D.1.2 Jumpers and Switches

The motherboard of the Point of Care Terminal has a number of jumpers that allow you to configure your system to suit your applications.

The table below lists the function of each of the board's jumpers.

Table D.1: Jumpers and their Functions

Label	Function Description
JP1	Isolated COM2 RS232/422/485 setting
JP4	CMOS clear for external RTC
JP5	COM1 Pin9 output type setting
JP6	COM3 Pin9 output type setting
JP7	COM2 Pin9 output type setting
JP8	COM4 Pin9 output type setting
JP10	Watchdog timer action

D.1.3 Locating Jumpers

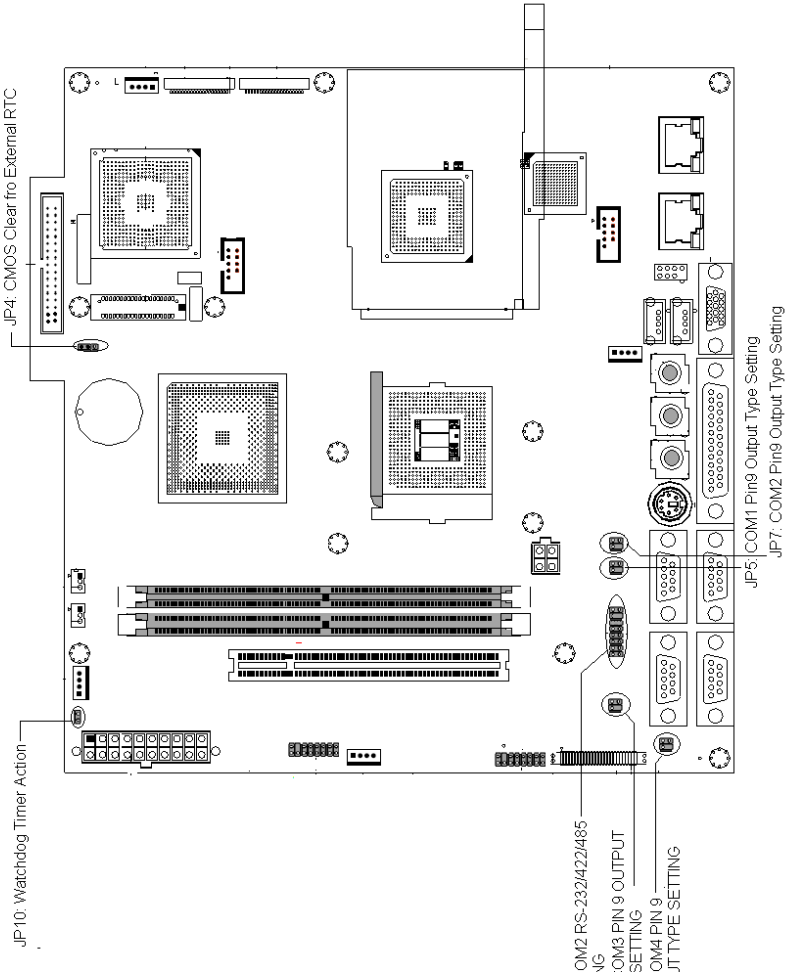


Figure D.2: Locating Jumpers on the POC-154 Motherboard

D.1.4 Connectors

On-board connectors link the Point of Care Terminal to external devices such as hard disk drives or floppy drives. The table below lists the function of each of the board's connectors.

Table D.2: Panel PC Connectors	
Label	**Function Description**
CN16	USB3/USB4 internal connector
CN17	FDD connector
CN18	CPU +12V power connector
CN20	IR connector
CN21	Front panel control connector
CN22	Flat panel display LVDS connector
CN23	USB5/USB6 internal connector
CN24	Flat panel display LVDS connector
CN26	ATX power connector
CN27	CD-ROM connector
CN29	Inverter power connector
CN31	EIDE hard disk drive connector
FAN1	CPU fan power connector
FAN2	System fan power connector
PCI1	PCI Bus expansion connector

D.1.5 Locating Connectors

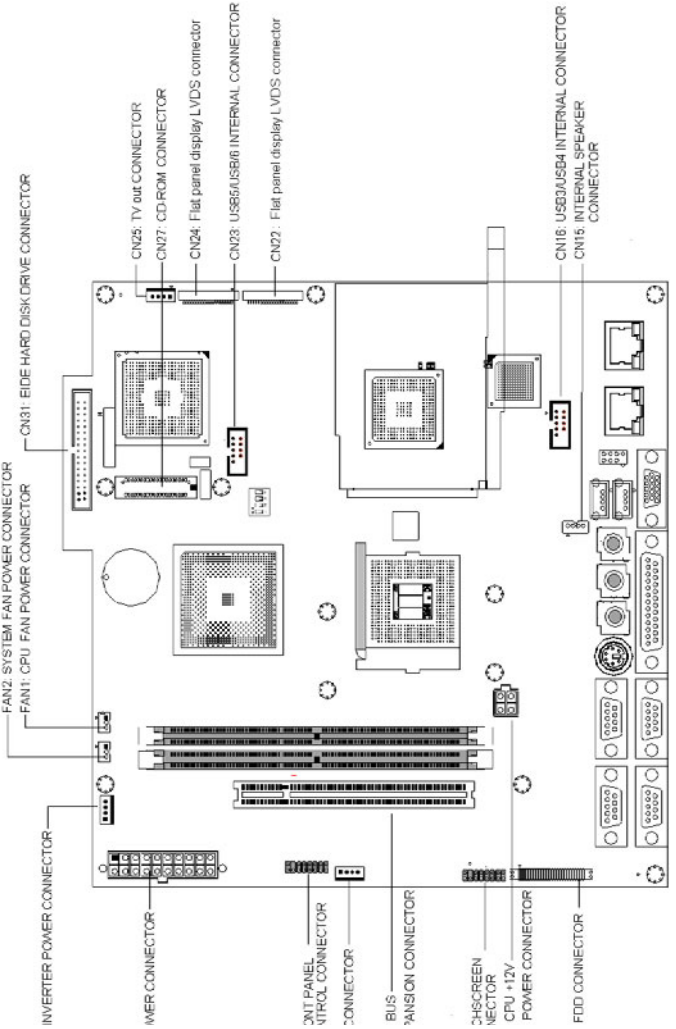

CN31: EIDE HARD DISK DRIVE CONNECTOR
CN25: TV out CONNECTOR
CN27: CD-ROM CONNECTOR
CN24: Flat panel display LVDS connector
CN23: USB5/USB6/8 INTERNAL CONNECTOR
CN22 : Flat panel display LVDS connector
CN16: USB3/USB4 INTERNAL CONNECTOR
CN15: INTERNAL SPEAKER CONNECTOR
FAN2: SYSTEM FAN POWER CONNECTOR
FAN1: CPU FAN POWER CONNECTOR
INVERTER POWER CONNECTOR
FDD CONNECTOR

Figure D.3: Locating Connectors on the POC-154 Motherboard

D.2 CPU Configuration

You can install an Intel Pentium 4 Mobile or Celeron CPU without setting any frequency ratio or voltage.

D.3 CMOS Clear for External RTC (JP4)

JP4 is the jumper for CMOS clear. It's the 3-pin jumper close to internal CMOS battery (BAT1).

Warning *To avoid damaging the computer, always turn off the power supply before setting "Clear CMOS". Set the jumper back to "Normal operation" before turning on the power supply.*

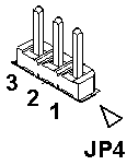


Figure D.4: CMOS Clear Jumper

Table D.3: Clear CMOS / External RTC (JP4)		
Pin No.	**Open/Closed**	**Function Description**
Pin 1,2	Closed	Normal operation (Default)
Pin 2,3	Closed	Clear CMOS

D.4 COM Port Interface Configuration (JP1)

The Point of Care Terminal provides four serial ports (COM1/ COM3/ COM4: RS-232; COM2: RS-232/422/485 optional in one COM port connector).

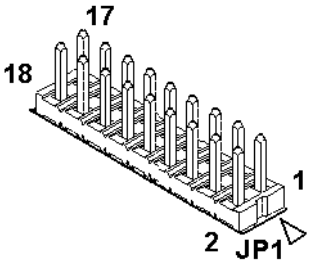


Figure D.5: COM Port Jumper

COM2 can be configured to operate in RS-232, RS-422, or RS-485 mode. This is done via JP1. JP1 is the 18 pins jumper close to the COM Port Connector.

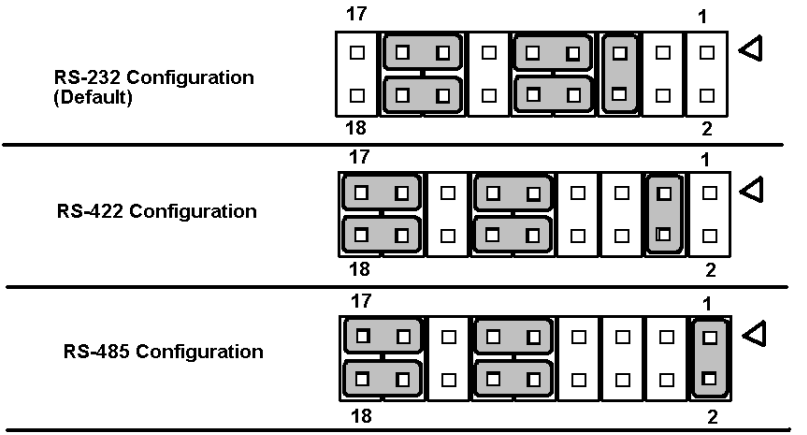


Figure D.6: COM2 Port Configuration

Table D.4: COM2 Port Configuration (JP1)		
Pin No.	**Open/Closed**	**Function Description**
Pin5,6 Pin7.9 Pin8,10 Pin13,15 Pin14,16	Closed	COM2 is RS232 port (Default)
Pin3,4 Pin9,11 Pin10,12 Pin15,17 Pin16,18	Closed	COM2 is RS422 port
Pin1,2 Pin9,11 Pn10,12 Pin15,17 Pin16,18	Closed	COM2 is RS485 port

The IRQ and the address ranges for COM1, 2, 3, and 4 are fixed.

However, if you wish to disable the port or change these parameters later you can do this in the system BIOS setup. The table overleaf shows the default settings for the panel PC's serial ports. COM1 and COM2 are one set. You can exchange the address range and interrupt IRQ of COM1 for the address range and interrupt IRQ of COM2. After exchanging, COM1's address range is 2F8 ~ 2FF and its request IRQ is IRQ3: and COM2's address range is 3F8 ~ 3FF and its interrupt IRQ is IRQ4. COM3 and COM4 are another set. Their selectable function is the same as the COM1/COM2 set.

Table D.5: Serial port default settings		
Port No.	**IO Address Range**	**Interrupt Request**
COM1	3F8~3FF	IRQ4
COM2	2F8~2FF	IRQ3
COM3	3E8~3EF	IRQ10
COM4	2E8~2EF	IRQ5

D.4.1 COM1/COM2/COM3/COM4 Pin9 Output Type Setting (JP5/JP7/JP6/JP8)

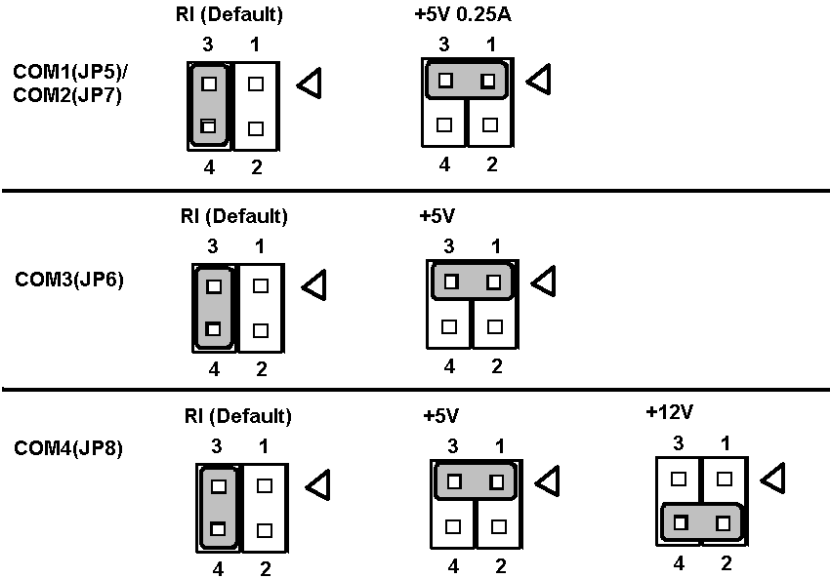


Figure D.7: COM Port Pin9 Configuration

Table D.6: COM Port Pin9 Output Type Configuring (JP5/JP6/JP7/JP8)		
Pin No.	**Open/Closed**	**Function Description**
Pin3,4	Closed	COM1/COM2/COM3/COM4 port Pin9 Ring (Default)
Pin1,3	Closed	COM1/COM2/COM3/COM4 port Pin9 output +5V
*Pin2,4	Closed	COM4 port Pin9 output +12V

* This function is for JP8 only.

D.5 VGA Interface

The Point of Care Terminal's AGP VGA interface can drive conventional CRT displays. It is also capable of driving a wide range of flat panel displays, including electroluminescent (EL), gas plasma, passive LCD and active LCD displays. The board has two connectors to support these displays simultaneously: one for standard CRT VGA monitors, and one for flat panel displays. CRT display port information can be found in Section D.5.1 this manual. Pin assignments for the flat panel display connector, backlight connector and other related connectors are shown in Appendix B.

D.5.1 VGA Information

The analog display port provides a RGB signal output along with a HSYNC and VSYNC signal. There is an associated DDC signal pair that is implemented using GPIO pins dedicated to the analog port. The intended target device is for a CRT-based monitor with a VGA connector. Display devices such as LCD panels with analog inputs may work satisfactory but no functionality has been added to the signals to enhance that capability.

Table D.7: Analog Display VGA Port

Pin No.	Function Description
1	Red Analog Video Output
2	Green Analog Video Output
3	Blue Analog Video Output
4	NC
5	GND
6	GND
7	GND
8	GND
9	Vcc
10	GND
11	NC
12	Analog DDC data
13	CRT Horizontal Synchronization
14	CRT Vertical Synchronization
15	Analog DDCA_Clock

D.6 Watchdog Timer Configuration

An on-board watchdog timer reduces the chance of disruptions which EMP (electromagnetic pulse) interference can cause. This is an invaluable protective device for standalone or unmanned applications. Setup involves one jumper and running the control software. (Refer to Appendix B.)

D.6.1 Watchdog Activity Selection (JP10)

When the watchdog timer activates (i.e. CPU processing has come to a halt), it can reset the system (JP10 Closed) or only generate an interrupt on IRQ11. (This can be set via jumper JP10 as shown Figure D.8.

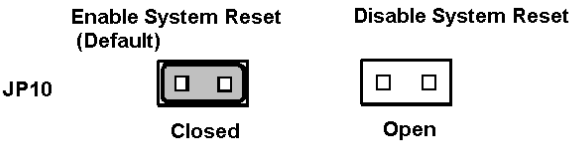


Figure D.8: Watchdog Configuration

APPENDIX E

VESA Mounting

Appendix E VESA Mounting

E.1 Install VESA Mounting

POC-154 also provides standard VESA mounting to help system integrators conveniently integrate the panel PC into their system.

Never use any other mounting brackets except for those provided by Advantech. Other mounting brackets may be unable to provide reliable fixing of POC-154. VESA mount installation should be operated by a professional technician, please contact a service technician or your dealer if you need this service.

Installation instructions:

1. The wall-mounting kit is comprised of two parts: one back bracket, and one mounting bracket.

2. First attach the back bracket to the rear cover of POC-154, securing it in place with four of the Philips head screws provided.

3. Mount the mounting bracket on the wall or other flat surface. The back bracket slides vertically from the top into the mounting bracket. It can be secured to the mounting bracket by screwing four of the Philips head screws provided through the corresponding holes at the tops of the mounting bracket.

Warning *Be sure to secure the screws of the mounting bracket tightly. Loose screws may cause the POC-154 to fall and inflict injuries.*

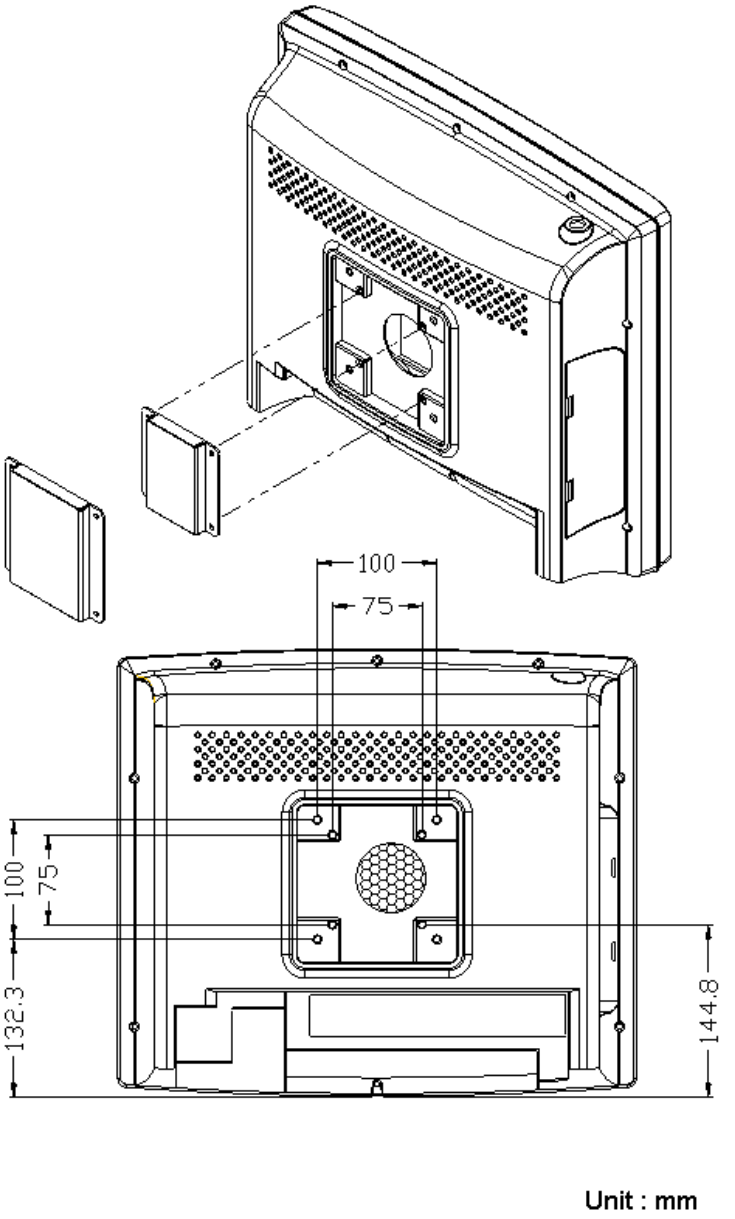


Figure E.1: VESA Mounting Dimensions Diagram